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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,248

10/13/2004

William K. S. Cleveland

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08/14/2008

THE LUBRIZOL CORPORATION
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EXAMINER

VASISTH, VISHAL V

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,248	Applicant(s) CLEVELAND ET AL.	
	Examiner VISHAL VASISTH	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 4, 11 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment of 5/12/2008 overcame the rejection under 35 USC 102 set forth in the office action mailed 1/28/2008. Claims 4, 11 and 15 were cancelled by amendment. New 35 USC 103 grounds of rejection necessitated by the amendment are set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-3, 5-10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blythe, US Patent No. 5,264,005 (hereinafter referred to as Blythe) in view of Teacherson, US Patent Application Publication No. 2004/0083729 (hereinafter referred to as Teacherson).

Regarding claim 1, Blythe discloses a method comprising the steps of; introducing into a two-cycle internal combustion engine a major amount of a fuel lubricant mixture (see Abstract). Blythe discloses a lubricant composition and fuel-lubricant mixture (Col. 28/L. 16-18) wherein the lubricant composition are used in fuels in amounts to release stuck piston rings or increase compression. The lubricant composition is preferably used at a concentration of 4 ounces per gallon of fuel. Based on a conversion of 128 ounces is equal to 1 gallon the ratio of fuel to lubricant would be within the claimed range 10-250:1 (step (I) of claim 1) (Col. 28/L. 26-38).

The lubricant composition of Blythe comprises, a fluidizing oil such as natural or synthetic oils (component (A) of claim 1) (Col. 27/L. 63-64), the reaction product of isostearic acid and tetraethylenepentamine (component (B)(1) of claim 1) (Col. 22/L. 49-58), a Mannich dispersant which is the reaction product of polybutene-substituted phenol, formaldehyde and an aqueous dimethylamine solution (component (B)(2) of claim 1) (Col. 20-21/L. 29-6) and a Stoddard solvent having a kinematic viscosity of .74-1.65 (cSt) at 100°C (component (C) of claim 1) (Col. 30/L. 20-23).

The lubricant composition of Blythe discloses comprising from about 2 to about 15% by weight of the product of a isostearic acid and tetraethylenepentamine (at least 1.6% by weight of component (B)(1) (Col. 22/L. 36-46 and Col. 28/L. 46-49) and from about 0.5 to about 30% by weight of a Mannich dispersant (component (B)(2) of claim 1) which makes the total weight percentage of the two components between 2.5 wt% to 45 wt% which overlaps with the claimed range of 6.5 to 15 wt% (Col. 16/L. 5 and Col. 28/L. 39-45 and Col. 30-31/L. 56-10).

Blythe discloses the use of the fuel lubricant mixture in power lawn mowers and other power-operated garden equipment, power chain saws, pumps, electric generators, marine outboard engines snowmobiles, motorcycles and the like (Col. 1/L. 11-17). Blythe, however, does not explicitly disclose the two-stroke internal combustion engine containing a power valve.

Teacherson discloses a two-stroke engine that produces more power with each stroke of the engine piston. Teacherson teaches lubricating the engine with a mixture of oil and gas (Para. [0031]). Teacherson further discloses a valve that closes when full power is needed allowing fuel to flow with the correct timing to develop the full power capability of the disclosed engine (power valve, of component (II) in claim 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the power valve of Teacherson in the two-stroke engine of Blythe in order to enhance the internal power generation of Blythe (Teacherson, Para. [0109]).

Regarding claim 2, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising tetraethylenepentamine (Col. 22/L. 49-58).

Regarding claim 3, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising tetraethylenepentamine (Col. 22/L. 49-58).

Regarding claim 5, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising a fluidizing oil such as natural or synthetic oils (Col. 27/L. 63-64).

Regarding claim 6, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising a natural or synthetic oil present in the lubricant composition from about 15% up to about 70% (Col. 28/L. 55-59) which overlaps with the claimed range of 30 to 95% by weight.

Regarding claim 7, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising isostearic acid and tetraethylenepentamine (monocarboxylic acylating agent is a C₄ to C₂₂ fatty carboxylic acid and the polyamine is a polyethylenepolyamine) (Col. 21/L. 37-41 and Col. 22/L. 49-58).

Regarding claim 8, Blythe/Teacherson disclose all of the limitations applied to claims 1 and 7 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising isostearic acid and tetraethylenepentamine (fatty carboxylic acid is isostearic acid and the polyamine is a polyethylenepolyamine) (Col. 21/L. 37-41 and Col. 22/L. 49-58).

Regarding claim 9, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle

internal combustion engine a fuel-lubricant mixture comprising a hydrocarbyl substituted aminophenol wherein the hydrocarbyl substituent of the aminophenol can be derived from polyisobutene (hydrocarbyl substituent of the aminophenol is derived from polyisobutylene) (Col. 3/L. 18 and Col. 5/L. 30-38).

Regarding claim 10, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising a Mannich dispersant which is the reaction product of polybutene-substituted phenol, formaldehyde and an aqueous dimethylamine solution (Mannich dispersant is the reaction product of polyisobutylene, formaldehyde and a an amine) (Col. 20-21/L. 29-6).

Regarding claim 12, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising ester oils (solvent is an oxygen-containing composition) (Col. 30/L. 7-19).

Regarding claims 13 and 14, Blythe/Teacherson disclose all of the limitations applied to claim 1 above, and Blythe further discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising additional additives (as recited in claim 13) (Col. 28/L. 60-66) including, viscosity index improvers, oxidation-inhibiting agents and pour point depressants (as recited in claim 14) (Col. 28/L. 60-66), extreme pressure agents, antiwear agents, color stabilizers and anti-foam agents.

Claim Rejections - 35 USC § 103

5. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blythe.

Regarding claim 16, Blythe discloses a method comprising the steps of; introducing into a two-cycle internal combustion engine a major amount of a fuel lubricant mixture (see Abstract). Blythe discloses a lubricant composition and fuel-lubricant mixture (Col. 28/L. 16-18) wherein the lubricant composition of Blythe comprises, a fluidizing oil such as natural or synthetic oils (component (A) of claim 16) (Col. 27/L. 63-64), the reaction product of isostearic acid and tetraethylenepentamine (component (B)(1) of claim 16) (Col. 22/L. 49-58), a hydrocarbyl substituted aminophenol (component (B)(2) of claim 16) (Col. 20-21/L. 29-6) and a Stoddard solvent having a kinematic viscosity of .74-1.65 (cSt) at 100°C (component (C) of claim 16) (Col. 30/L. 20-23).

The lubricant composition of Blythe comprises from about 2 to about 15% by weight of the product of a isostearic acid and tetraethylenepentamine (component (B)(1) of claim 16) (Col. 22/L. 36-46 and Col. 28/L. 46-49) and the hydrocarbyl-substituted aminophenol dispersant (component (B)(2) of claim 16) is 5 to 30% by weight and which makes the total weight percentage of the two components being between 7 to 45 wt% which overlaps with the claimed range of from 6.5 to 15 weight percent (Col. 16/L. 5 and Col. 28/L. 39-45 and Col. 30-31/L. 56-10). In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

Regarding claim 17, Blythe discloses a lubricant composition for two-cycle engines comprising isostearic acid and tetraethylenepentamine (monocarboxylic acylating agent is a C₄ to C₂₂ fatty carboxylic acid and the polyamine) (Col. 21/L. 37-41 and Col. 22/L. 49-58).

Regarding claim 18, Blythe discloses a lubricant composition for two-cycle engines comprising additional additives including, viscosity index improvers, oxidation-inhibiting agents and pour point depressants, extreme pressure agents, antiwear agents, color stabilizers and anti-foam agents (Col. 28/L. 60-66).

Regarding claim 19, Blythe discloses a lubricant composition for two-cycle engines comprising a major portion of a normally liquid fuel such as hydrocarbonaceous petroleum distillate fuel (a liquid fuel) (Col. 30/L. 20-23) and a lubricating amount of the composition described in claim 16 (lubricating amount of the composition of claim 16) (Col. 28/L. 16-59).

Regarding claim 20, Blythe discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture (Col. 1-2/L. 64-27) such as the one in claim 16 (supplying to the engine the lubricant composition of claim 16) (Col. 28/L. 16-59).

Response to Arguments

6. Applicant's arguments filed 5/12/08 have been fully considered but they are not persuasive. Applicants argue that the present invention provides unexpected results and provide data that allegedly supports the applicant's position. However, the data submitted is not commensurate with the scope of the claims. For example, claim 1

gives a range from 6.5 to 15 weight percent for combined amounts of components (B)(1) and (B)(2). In the data submitted by applicant however, the combined amount of components (B)(1) and (B)(2) is within a much narrower range from 9.4 to 10.8, and therefore does not demonstrate unexpected results across the full scope of the claim. Also, the data uses compositions containing a significant amount of both (B)(1) and (B)(2), while the claim allows for any amount of (B)(2), even a trace amount. Also, component (B)(1) can be many different compounds, but the submitted data only shows one type of reaction product, therefore unexpected results have not been shown across the scope of what is claimed.

Finally, Teacherson addresses the newly added limitation regarding a two-stroke engine with a power valve, as discussed above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VVV

/Glenn A Caldarola/

Acting SPE of Art Unit 1797